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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/023,584

DATE: 05/03/2002
TIME: 14:31:58

Input Set : N:\CrF3\RULE60\10023584.raw
Output Set: N:\CRF3\05032002\J023584.raw

RECEIVED

MAY 15 2002

TECH CENTER 1600/2900

1 <110> APPLICANT: Rosen et al.
2 <120> TITLE OF INVENTION: Vascular Endothelial Growth Factor 2
3 <130> FILE REFERENCE: PF112P1
4 <140> CURRENT APPLICATION NUMBER: 10/023,584
C--> 5 <141> CURRENT FILING DATE: 2001-12-21
7 <150> PRIOR APPLICATION NUMBER: 08/465,968
8 <151> PRIOR FILING DATE: 1995-06-06
11 <150> PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 08/207,550
W--> 12 <151> PRIOR FILING DATE: EARLIER FILING DATE: 1994-03-08

13 <160> NUMBER OF SEQ ID NOS: 10
14 <170> SOFTWARE: PatentIn Ver. 2.0

16 <210> SEQ ID NO: 1

17 <211> LENGTH: 1674

18 <212> TYPE: DNA

19 <213> ORGANISM: Homo sapiens

20 <220> FEATURE:

21 <221> NAME/KEY: CDS

22 <222> LOCATION: (12)..(1268)

23 <220> FEATURE:

24 <221> NAME/KEY: sig_peptide

25 <222> LOCATION: (12)..(149)

26 <220> FEATURE:

27 <221> NAME/KEY: mat_peptide

28 <222> LOCATION: (150)..(1268)

29 <400> SEQUENCE: 1

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|----|--|-----|-----|
| 30 | gtccttccac c atg cac tcg ctg ggc ttc ttc tct gtg gcg tgt tct ctg | 50 | |
| | Met His Ser Leu Gly Phe Phe Ser Val Ala Cys Ser Leu | | |
| 31 | -45 | -40 | -35 |
| 32 | | | |
| 33 | ctc gcc gct gcg ctg ctc ccg ggt cct cgc gag ggc ccc gcc gcc | 98 | |
| 34 | Leu Ala Ala Ala Leu Leu Pro Gly Pro Arg Glu Ala Pro Ala Ala | | |
| 35 | -30 | -25 | -20 |
| 36 | gcc gcc ttc gag tcc gga ctc gac ctc tcg gac gcg gag ccc gac gcg | 146 | |
| 37 | Ala Ala Phe Glu Ser Gly Leu Asp Leu Ser Asp Ala Glu Pro Asp Ala | | |
| 38 | -15 | -10 | -5 |
| 39 | ggc gag gcc acg gct tat gca agc aaa gat ctg gag gag cag tta cgg | 194 | |
| 40 | Gly Glu Ala Thr Ala Tyr Ala Ser Lys Asp Leu Glu Glu Gln Leu Arg | | |
| 41 | -1 1 5 10 15 | | |
| 42 | tct gtg tcc agt gta gat gaa ctc atg act gta ctc tac cca gaa tat | 242 | |
| 43 | Ser Val Ser Ser Val Asp Glu Leu Met Thr Val Leu Tyr Pro Glu Tyr | | |
| 44 | 20 25 30 | | |
| 45 | tgg aaa atg tac aag tgt cag cta agg aaa gga ggc tgg caa cat aac | 290 | |
| 46 | Trp Lys Met Tyr Lys Cys Gln Leu Arg Lys Gly Gly Trp Gln His Asn | | |
| 47 | 35 40 45 | | |

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| | | |
|----|---|------|
| 48 | aga gaa cag gcc aac ctc aac tca agg aca gaa gag act ata aaa ttt | 338 |
| 49 | Arg Glu Gln Ala Asn Leu Asn Ser Arg Thr Glu Glu Thr Ile Lys Phe | |
| 50 | 50 55 60 | |
| 51 | gct gca gca cat tat aat aca gag atc ttg aaa agt att gat aat gag | 386 |
| 52 | Ala Ala Ala His Tyr Asn Thr Glu Ile Leu Lys Ser Ile Asp Asn Glu | |
| 53 | 65 70 75 | |
| 54 | tgg aga aag actcaa tgc atg cca cg gat gtg tgt ata gat gtg ggg | 434 |
| 55 | Trp Arg Lys Thr Gln Cys Met Pro Arg Glu Val Cys Ile Asp Val Gly | |
| 56 | 80 85 90 95 | |
| 57 | aag gag ttt gga gtc gcg aca aac acc ttc ttt aaa cct cca tgt gtg | 482 |
| 58 | Lys Glu Phe Gly Val Ala Thr Asn Thr Phe Phe Lys Pro Pro Cys Val | |
| 59 | 100 105 110 | |
| 60 | tcc gtc tac aga tgt ggg ggt tgc tgc aat agt gag ggg ctg cag tgc | 530 |
| 61 | Ser Val Tyr Arg Cys Gly Cys Cys Asn Ser Glu Gly Leu Gln Cys | |
| 62 | 115 120 125 | |
| 63 | atg aac acc agc acg agc tac ctc agc aag acg tta ttt gaa att aca | 578 |
| 64 | Met Asn Thr Ser Thr Ser Tyr Leu Ser Lys Thr Leu Phe Glu Ile Thr | |
| 65 | 130 135 140 | |
| 66 | gtg cct ctc tct caa ggc ccc aaa cca gta aca atc agt ttt gcc aat | 626 |
| 67 | Val Pro Leu Ser Gln Gly Pro Lys Pro Val Thr Ile Ser Phe Ala Asn | |
| 68 | 145 150 155 | |
| 69 | cac act tcc tgc cga tgc atg tct aaa ctg gat gtt tac aga caa gtt | 674 |
| 70 | His Thr Ser Cys Arg Cys Met Ser Lys Leu Asp Val Tyr Arg Gln Val | |
| 71 | 160 165 170 175 | |
| 72 | cat tcc att att aga cgt tcc ctg cca gca aca cta cca cag tgt cag | 722 |
| 73 | His Ser Ile Ile Arg Arg Ser Leu Pro Ala Thr Leu Pro Gln Cys Gln | |
| 74 | 180 185 190 | |
| 75 | gca gcg aac aag acc tgc ccc acc aat tac atg tgg aat aat cac atc | 770 |
| 76 | Ala Ala Asn Lys Thr Cys Pro Thr Asn Tyr Met Trp Asn Asn His Ile | |
| 77 | 195 200 205 | |
| 78 | tgc aga tgc ctg gct cag gaa gat ttt atg ttt tcc tcg gat gct gga | 818 |
| 79 | Cys Arg Cys Leu Ala Gln Glu Asp Phe Met Phe Ser Ser Asp Ala Gly | |
| 80 | 210 215 220 | |
| 81 | gat gac tca aca gat gga ttc cat gac atc tgt gga cca aac aag gag | 866 |
| 82 | Asp Asp Ser Thr Asp Gly Phe His Asp Ile Cys Gly Pro Asn Lys Glu | |
| 83 | 225 230 235 | |
| 84 | ctg gat gaa gag acc tgt cag tgt gtc tgc aga gcg ggg ctt cgg cct | 914 |
| 85 | Leu Asp Glu Glu Thr Cys Gln Cys Val Cys Arg Ala Gly Leu Arg Pro | |
| 86 | 240 245 250 255 | |
| 87 | gcc agc tgt gga ccc cac aaa gaa cta gac aga aac tca tgc cag tgt | 962 |
| 88 | Ala Ser Cys Gly Pro His Lys Glu Leu Asp Arg Asn Ser Cys Gln Cys | |
| 89 | 260 265 270 | |
| 90 | gtc tgt aaa aac aaa ctc ttc ccc agc caa tgt ggg gcc aac cga gaa | 1010 |
| 91 | Val Cys Lys Asn Lys Leu Phe Pro Ser Gln Cys Gly Ala Asn Arg Glu | |
| 92 | 275 280 285 | |
| 93 | ttt gat gaa aac aca tgc cag tgt gta tgt aaa aga acc tgc ccc aga | 1058 |
| 94 | Phe Asp Glu Asn Thr Cys Gln Cys Val Cys Lys Arg Thr Cys Pro Arg | |
| 95 | 290 295 300 | |
| 96 | aat caa ccc cta aat cct gga aaa tgt gcc tgt gaa tgt aca gaa agt | 1106 |

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|-----|---|------|-----|-----|
| 97 | Asn Gln Pro Leu Asn Pro Gly Lys Cys Ala Cys Glu Cys Thr Glu Ser | | | |
| 98 | 305 | 310 | 315 | |
| 99 | cca cag aaa tgc ttg tta aaa gga aag aag ttc cac cac caa aca tgc | 1154 | | |
| 100 | Pro Gln Lys Cys Leu Leu Lys Gly Lys Lys Phe His His Gln Thr Cys | | | |
| 101 | 320 | 325 | 330 | 335 |
| 102 | agc tgt tac aga cgg cca tgt acg aac cgc cag aag gct tgt gag cca | 1202 | | |
| 103 | Ser Cys Tyr Arg Arg Pro Cys Thr Asn Arg Gln Lys Ala Cys Glu Pro | | | |
| 104 | 340 | 345 | 350 | |
| 105 | gga ttt tca tat agt gaa gaa gtg tgt cgt tgt gtc cct tca tat tgg | 1250 | | |
| 106 | Gly Phe Ser Tyr Ser Glu Glu Val Cys Arg Cys Val Pro Ser Tyr Trp | | | |
| 107 | 355 | 360 | 365 | |
| 108 | caa aga cca caa atg agc taagattgta ctgtttcca gttcatcgat | 1298 | | |
| 109 | Gln Arg Pro Gln Met Ser | | | |
| 110 | 370 | | | |
| 111 | tttctattat ggaaaactgt gttgccacag tagaactgtc tgtgaacaga gagacccttg | 1358 | | |
| 112 | tgggtccatg ctaacaaaaga caaaaagtctg tctttcctga accatgtgga taactttaca | 1418 | | |
| 113 | gaaatggact ggagctcatc tgcaaaaggc ctcttgtaaa gactggttt ctgccaatga | 1478 | | |
| 114 | ccaaacagcc aagattttcc tcttgtgatt tctttaaaag aatgactata taatttattt | 1538 | | |
| 115 | ccactaaaaa tattgtttct gcattcattt ttatagcaac aacaattggt aaaactcact | 1598 | | |
| 116 | gtgatcaata ttttatatc atgcaaaata tgtttaaaat aaaatgaaaa ttgtatttat | 1658 | | |
| 117 | aaaaaaaaaaaaaaa | 1674 | | |
| 119 | <210> SEQ ID NO: 2 | | | |
| 120 | <211> LENGTH: 419 | | | |
| 121 | <212> TYPE: PRT | | | |
| 122 | <213> ORGANISM: Homo sapiens | | | |
| 123 | <400> SEQUENCE: 2 | | | |
| 124 | Met His Ser Leu Gly Phe Phe Ser Val Ala Cys Ser Leu Leu Ala Ala | | | |
| 125 | -45 | -40 | -35 | |
| 126 | Ala Leu Leu Pro Gly Pro Arg Glu Ala Pro Ala Ala Ala Ala Phe | | | |
| 127 | -30 | -25 | -20 | -15 |
| 128 | Glu Ser Gly Leu Asp Leu Ser Asp Ala Glu Pro Asp Ala Gly Glu Ala | | | |
| 129 | -10 | -5 | -1 | 1 |
| 130 | Thr Ala Tyr Ala Ser Lys Asp Leu Glu Glu Gln Leu Arg Ser Val Ser | | | |
| 131 | 5 | 10 | 15 | |
| 132 | Ser Val Asp Glu Leu Met Thr Val Leu Tyr Pro Glu Tyr Trp Lys Met | | | |
| 133 | 20 | 25 | 30 | |
| 134 | Tyr Lys Cys Gln Leu Arg Lys Gly Gly Trp Gln His Asn Arg Glu Gln | | | |
| 135 | 35 | 40 | 45 | 50 |
| 136 | Ala Asn Leu Asn Ser Arg Thr Glu Glu Thr Ile Lys Phe Ala Ala Ala | | | |
| 137 | 55 | 60 | 65 | |
| 138 | His Tyr Asn Thr Glu Ile Leu Lys Ser Ile Asp Asn Glu Trp Arg Lys | | | |
| 139 | 70 | 75 | 80 | |
| 140 | Thr Gln Cys Met Pro Arg Glu Val Cys Ile Asp Val Gly Lys Glu Phe | | | |
| 141 | 85 | 90 | 95 | |
| 142 | Gly Val Ala Thr Asn Thr Phe Phe Lys Pro Pro Cys Val Ser Val Tyr | | | |
| 143 | 100 | 105 | 110 | |
| 144 | Arg Cys Gly Gly Cys Cys Asn Ser Glu Gly Leu Gln Cys Met Asn Thr | | | |
| 145 | 115 | 120 | 125 | 130 |
| 146 | Ser Thr Ser Tyr Leu Ser Lys Thr Leu Phe Glu Ile Thr Val Pro Leu | | | |

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| | | | |
|-----|---|-----|-----|
| 147 | 135 | 140 | 145 |
| 148 | Ser Gln Gly Pro Lys Pro Val Thr Ile Ser Phe Ala Asn His Thr Ser | | |
| 149 | 150 | 155 | 160 |
| 150 | Cys Arg Cys Met Ser Lys Leu Asp Val Tyr Arg Gln Val His Ser Ile | | |
| 151 | 165 | 170 | 175 |
| 152 | Ile Arg Arg Ser Leu Pro Ala Thr Leu Pro Gln Cys Gln Ala Ala Asn | | |
| 153 | 180 | 185 | 190 |
| 154 | Lys Thr Cys Pro Thr Asn Tyr Met Trp Asn Asn His Ile Cys Arg Cys | | |
| 155 | 195 | 200 | 205 |
| 156 | Leu Ala Gln Glu Asp Phe Met Phe Ser Ser Asp Ala Gly Asp Asp Ser | | 210 |
| 157 | 215 | 220 | 225 |
| 158 | Thr Asp Gly Phe His Asp Ile Cys Gly Pro Asn Lys Glu Leu Asp Glu | | |
| 159 | 230 | 235 | 240 |
| 160 | Glu Thr Cys Gln Cys Val Cys Arg Ala Gly Leu Arg Pro Ala Ser Cys | | |
| 161 | 245 | 250 | 255 |
| 162 | Gly Pro His Lys Glu Leu Asp Arg Asn Ser Cys Gln Cys Val Cys Lys | | |
| 163 | 260 | 265 | 270 |
| 164 | Asn Lys Leu Phe Pro Ser Gln Cys Gly Ala Asn Arg Glu Phe Asp Glu | | |
| 165 | 275 | 280 | 285 |
| 166 | Asn Thr Cys Gln Cys Val Cys Lys Arg Thr Cys Pro Arg Asn Gln Pro | | |
| 167 | 295 | 300 | 305 |
| 168 | Leu Asn Pro Gly Lys Cys Ala Cys Glu Cys Thr Glu Ser Pro Gln Lys | | |
| 169 | 310 | 315 | 320 |
| 170 | Cys Leu Leu Lys Gly Lys Lys Phe His His Gln Thr Cys Ser Cys Tyr | | |
| 171 | 325 | 330 | 335 |
| 172 | Arg Arg Pro Cys Thr Asn Arg Gln Lys Ala Cys Glu Pro Gly Phe Ser | | |
| 173 | 340 | 345 | 350 |
| 174 | Tyr Ser Glu Glu Val Cys Arg Cys Val Pro Ser Tyr Trp Gln Arg Pro | | |
| 175 | 355 | 360 | 365 |
| 176 | Gln Met Ser | | 370 |
| 178 | <210> SEQ ID NO: 3 | | |
| 179 | <211> LENGTH: 196 | | |
| 180 | <212> TYPE: PRT | | |
| 181 | <213> ORGANISM: Homo sapiens | | |
| 182 | <400> SEQUENCE: 3 | | |
| 183 | Met Arg Thr Leu Ala Cys Leu Leu Leu Gly Cys Gly Tyr Leu Ala | | |
| 184 | 1 | 5 | 10 |
| 185 | His Val Leu Ala Glu Glu Ala Glu Ile Pro Arg Glu Val Ile Glu Arg | | 15 |
| 186 | 20 | 25 | 30 |
| 187 | Leu Ala Arg Ser Gln Ile His Ser Ile Arg Asp Leu Gln Arg Leu Leu | | |
| 188 | 35 | 40 | 45 |
| 189 | Glu Ile Asp Ser Val Gly Ser Glu Asp Ser Leu Asp Thr Ser Leu Arg | | |
| 190 | 50 | 55 | 60 |
| 191 | Ala His Gly Val His Ala Thr Lys His Val Pro Glu Lys Arg Pro Leu | | |
| 192 | 65 | 70 | 75 |
| 193 | Pro Ile Arg Arg Lys Arg Ser Ile Glu Glu Ala Val Pro Ala Val Cys | | 80 |
| 194 | 85 | 90 | 95 |
| 195 | Lys Thr Arg Thr Val Ile Tyr Glu Ile Pro Arg Ser Gln Val Asp Pro | | |
| 196 | 100 | 105 | 110 |

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197 Thr Ser Ala Asn Phe Leu Ile Trp Pro Pro Cys Val Glu Val Lys Arg
198 115 120 125
199 Cys Thr Gly Cys Cys Asn Thr Ser Ser Val Lys Cys Gln Pro Ser Arg
200 130 135 140
201 Val His His Arg Ser Val Lys Val Ala Lys Val Glu Tyr Val Arg Lys
202 145 150 155 160
203 Lys Pro Lys Leu Lys Glu Val Gln Val Arg Leu Glu Glu His Leu Glu
204 165 170 175
205 Cys Ala Cys Ala Thr Thr Ser Leu Asn Pro Asp Tyr Arg Glu Glu Asp
206 180 185 190
207 Thr Asp Val Arg
208 195
210 <210> SEQ ID NO: 4
211 <211> LENGTH: 241
212 <212> TYPE: PRT
213 <213> ORGANISM: Homo sapiens
214 <400> SEQUENCE: 4
215 Met Asn Arg Cys Trp Ala Leu Phe Leu Ser Leu Cys Cys Tyr Leu Arg
216 1 5 10 15
217 Leu Val Ser Ala Glu Gly Asp Pro Ile Pro Glu Glu Leu Tyr Glu Met
218 20 25 30
219 Leu Ser Asp His Ser Ile Arg Ser Phe Asp Asp Leu Gln Arg Leu Leu
220 35 40 45
221 His Gly Asp Pro Gly Glu Glu Asp Gly Ala Glu Leu Asp Leu Asn Met
222 50 55 60
223 Thr Arg Ser His Ser Gly Gly Glu Leu Glu Ser Leu Ala Arg Gly Arg
224 65 70 75 80
225 Arg Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala Glu
226 85 90 95
227 Cys Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp
228 100 105 110
229 Arg Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln
230 115 120 125
231 Arg Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro Thr
232 130 135 140
233 Gln Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg
234 145 150 155 160
235 Lys Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu
236 165 170 175
237 Ala Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr Arg Ser
238 180 185 190
239 Pro Gly Gly Ser Gln Glu Gln Arg Ala Lys Thr Pro Gln Thr Arg Val
240 195 200 205
241 Thr Ile Arg Thr Val Arg Val Arg Arg Pro Pro Lys Gly Lys His Arg
242 210 215 220
243 Lys Phe Lys His Thr His Asp Lys Thr Ala Leu Lys Glu Thr Leu Gly
244 225 230 235 240
245 Ala
247 <210> SEQ ID NO: 5

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/023,584 DATE: 05/03/2002
TIME: 14:31:59

Input Set : N:\Crf3\RULE60\10023584.raw
Output Set: N:\CRF3\05032002\J023584.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; Xaa Pos. 2,5,6,7,10

VARIABLE LOCATION SUMMARY
PATENT APPLICATION: US/10/023,584

DATE: 05/03/2002
TIME: 14:31:59

Input Set : N:\Crf3\RULE60\10023584.raw
Output Set: N:\CRF3\05032002\J023584.raw

Use of n's or Xaa's(NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
in <220> to <223> section, please explain location of n or Xaa, and which
residue n or Xaa represents.

Seq#:6; Xaa Pos. 2,5,6,7,10

VERIFICATION SUMMARY

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Input Set : N:\Crf3\RULE60\10023584.raw
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L:5 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:12 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD
L:288 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:6